

April 29, 1951.

Dr. E. Klieneberger-Nobel,
Lister Institute of Preventive Medicine,
London, England.

Dear Dr. Nobel:

As you might expect, I have long wondered whether there could be any connection between the occurrence of L- and granular phases of bacteria, and the genetic recombination found to occur in a number of strains of *E. coli*. In spite of numerous approaches, no evidence has been found so far for the participation of any form other than ordinary bacteria in genetic recombination.

Some recent observations on *Salmonella* promise, however, to throw some more light on this problem. Recombination between certain strains seems to be mediated by a filtrable agent from one parent; there is every indication that this agent can be identified with your filtrable "primary cell units" as described for *S. moniliformis*. The filtrable units may remain dormant in ordinary media, but give rise to "A" forms typical of the parent cells when inoculated with other strains with which recombination has not been demonstrable. This argues for both a genetic and a vegetative function of these units. The filtrations consist of passages through medium, then a fine, Mandler filter. The former alone usually is quite sufficient to retain the A forms. Tulane has hinted at the same sort of thing in *Proteus*, but I have not seen a straightforward description of the recovery of A cells from filtrates.

Although our work with *Salmonella* shows considerable promise of new answers, I would prefer to work out the details with *E. coli*, especially for genetic work. I am writing to ask whether you could send me a transplant of the strain "204" which you describe in one of your papers as producing a luxuriant growth of L on ordinary media. The favor would be appreciated,

Sincerely,

Joshua Lederberg,
Associate Professor of Genetics